APPENDIX A

Proposed Rules

Parts 0, 2, and 101 of title 47 of the Code of Federal Regulations would be amended as follows if the Commission decides to issue licenses on the basis of exclusive geographic areas. Some of these proposed rules would need to be modified, augmented, or eliminated if we decide to issue multiple non-exclusive nationwide licenses with registration of links on a first-in-time registration basis:

PART 0

1. The authority citation for part 0 would continue to read as follows:

   AUTHORITY: 47 U.S.C. 154, 302a, 303, and 336, unless otherwise noted.

2. Section 0.331(d) would be amended to read as follows:

§ 0.331 Authority delegated.

* * * * *

(d) *Authority concerning rulemaking proceedings.* The Chief, Wireless Telecommunications Bureau shall not have the authority to act upon notices of proposed rulemaking and inquiry, final order in rulemaking proceedings and inquiry proceedings, and reports arising from any of the foregoing except such orders involving ministerial conforming amendments to rule parts, or order conforming any of the applicable rules to formally adopted international conventions or agreements where novel question of fact, law, or policy are not involved. Updates to the list of NTIA facilities in § 101.147 need not be referred to the Commission if they do not involve novel questions of fact, policy or law. Also the addition of new Marine VHF frequency coordination committee(s) to § 80.514 of this chapter need not be referred to the Commission if they do not involve novel questions of fact, policy or law, as well as requests by the United States Coast Guard to:

(1) * * *

* * * * *

PART 2 – FREQUENCY ALLOCATIONS AND RADIO TREATY MATTERS; GENERAL RULES AND REGULATIONS

1. The authority citation for part 2 would continue to read as follows:

   AUTHORITY: 47 U.S.C. 154, 302a, 303, and 336, unless otherwise noted.

2. Section 2.106, the Table of Frequency Allocations, would be amended as follows:

   a. Revise pages 76 and77.

   b. In the list of United States footnotes, add footnote USxxx. (Here and below, "USxxx" indicates that the Commission will determine the U.S. footnote number if and when it adopts the proposed rule).

   c. In the list of non-Federal government footnotes, add footnote NGxxx (Here and below, "NGxxx" indicates that the Commission will determine the non-government footnote number if and when it adopts the proposed rule).

The proposed revisions and additions read as follows:

§ 2.106 Table of Frequency Allocations.

* * * * *

36-37 EARTH EXPLORATION-SATELLITE (passive) FIXED MOBILE SPACE RESEARCH (passive) 5.149	36-37 EARTH EXPLORATION-SATELLITE (passive) FIXED MOBILE SPACE RESEARCH (passive) US263 US342		
37-37.5 FIXED MOBILE SPACE RESEARCH (space-to-Earth) 5.547	37-37.5 FIXED MOBILE SPACE RESEARCH (space-to-Earth) USxxx	37-37.5 FIXED MOBILE USxxx	Fixed Microwave (101)
37.5-38 FIXED FIXED-SATELLITE (space-to-Earth) MOBILE SPACE RESEARCH (space-to-Earth) Earth exploration-satellite (space-to-Earth) 5.547	37.5-38 FIXED MOBILE SPACE RESEARCH (space-to-Earth) USxxx	37.5-38.6 FIXED FIXED-SATELLITE (space-to-Earth) NGxxx MOBILE	Satellite Communications (25) Fixed Microwave (101)
38-39.5 FIXED FIXED-SATELLITE (space-to-Earth) MOBILE Earth exploration-satellite (space-to-Earth)	38-38.6 FIXED MOBILE USxxx	USxxx	
5.547	38.6-39.5	38.6-39.5 FIXED FIXED-SATELLITE (space-to-Earth) NGxxx MOBILE NG175	
39.5-40 FIXED FIXED-SATELLITE (space-to-Earth) 5.516B MOBILE MOBILE-SATELLITE (space-to-Earth) Earth exploration-satellite (space-to-Earth) 5.547	39.5-40 FIXED-SATELLITE (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) US382 G117	39.5-40 FIXED FIXED-SATELLITE (space-to-Earth) NGxxx MOBILE NG175 US382	
40-40.5 EARTH EXPLORATION-SATELLITE (Earth-to-space) FIXED FIXED-SATELLITE (space-to-Earth) 5.516B MOBILE MOBILE-SATELLITE (space-to-Earth) SPACE RESEARCH (Earth-to-space) Earth exploration-satellite (space-to-Earth)	40-40.5 EARTH EXPLORATION- SATELLITE (Earth-to-space) FIXED-SATELLITE (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) SPACE RESEARCH (Earth-to-space) Earth exploration-satellite (space-to-Earth) G117	40-40.5 FIXED-SATELLITE (space-to-Earth) MOBILE-SATELLITE (space-to-Earth)	Satellite Communications (25)

40.5-50.2 GHz (EHF)

International Table			United States Table		FCC Rule Part(s)
Region 1	Region 2	Region 3	Federal Government	Non-Federal Government	
40.5-41 FIXED FIXED-SATELLITE (space-to-Earth) BROADCASTING BROADCASTING- SATELLITE Mobile	40.5-41 FIXED FIXED-SATELLITE (space-to-Earth) 5.516B BROADCASTING BROADCASTING- SATELLITE Mobile Mobile-satellite (space-to-Earth)	40 5-41 FIXED FIXED-SATELLITE (space-to-Earth) BROADCASTING BROADCASTING- SATELLITE Mobile	40.5-41 FIXED-SATELLITE (space-to-Earth) Mobile-satellite (space-to-Earth)	40.5-41 FIXED-SATELLITE (space-to-Earth) BROADCASTING BROADCASTING- SATELLITE Fixed Mobile Mobile-satellite (space-to-Earth)	Satellite Communications (25)
5.547	5.547	5.547	US211 G117	US211	
41-42.5 FIXED FIXED-SATELLITE (space-to-Earth) 5.516B BROADCASTING BROADCASTING-SATELLITE Mobile			41-42.5	41-42 FIXED FIXED-SATELLITE (space-to-Earth) BROADCASTING BROADCASTING- SATELLITE MOBILE US211	
				42-42.5 FIXED BROADCASTING BROADCASTING- SATELLITE MOBILE	Fixed Microwave (101)
5.547 5.551F 5.551H 5.551I			US211	US211	
42.5-43.5 FIXED FIXED-SATELLITE (Earth-to-space) 5.552 MOBILE except aeronautical mobile RADIO ASTRONOMY			42.5-43.5 FIXED FIXED-SATELLITE (Earth-to-space) MOBILE except aeronautical mobile RADIO ASTRONOMY	42.5-43.5 RADIO ASTRONOMY	
5.149 5.547			US342	US342	
43.5-47 MOBILE 5.553 MOBILE-SATELLITE RADIONAVIGATION RADIONAVIGATION-SATELLITE			43.5-45.5 MOBILE-SATELLITE (Earth-to-space) FIXED-SATELLITE (Earth-to-space) G117	43.5-45.5	
			45.5-46.9 MOBILE MOBILE-SATELLITE (Earth-to-space) RADIONAVIGATION-SATELLITE		
5.554			5.554		

		46.9-47 MOBILE MOBILE-SATELLITE (Earth-to-space) RADIONAVIGATION- SATELLITE 5.554	46.9-47 MOBILE MOBILE-SATELLITE (Earth-to-space) RADIONAVIGATION- SATELLITE FIXED 5.554	
47-47.2 AMATEUR AMATEUR-SATELLITE		47-48.2	47-47.2 AMATEUR AMATEUR-SATELLITE	Amateur (97)
47.2-47.5 FIXED FIXED-SATELLITE (Earth-to-space) 5.552 MOBILE 5.552A			47.2-48.2 FIXED FIXED-SATELLITE (Earth-to-space) US297 MOBILE US264	Satellite Communications (25)
47.5-47.9 FIXED FIXED-SATELLITE (Earth-to-space) 5.552 (space-to-Earth) 5.516B MOBILE	47.5-47.9 FIXED FIXED-SATELLITE (Earth-to-space) 5.552 MOBILE			
47.9-48.2 FIXED FIXED-SATELLITE (Earth-to-space) 5.552 MOBILE 5.552A				
48.2-48.54 FIXED FIXED-SATELLITE (Earth-to- space) 5.552 (space-to-Earth) 5.516B 5.554A 5.555A MOBILE	48.2-50.2 FIXED FIXED-SATELLITE (Earth-to-space) 5.516B 5.552 MOBILE	48.2-50.2 FIXED FIXED-SATELLITE (Earth-to-space) US297 MOBILE US264		
48.54-49.44 FIXED FIXED-SATELLITE (Earth-to-space) 5.552 MOBILE 5.149 5.340 5.555				
See next page	5.149 5.340 5.555	5.555 US342		

* * * * *

UNITED STATES (US) FOOTNOTES

* * * * *

USxxx In the band 37-38 GHz, the following Government receiving earth stations have been coordinated with the FCC and shall be protected from non- operations in the fixed and mobile services in the band 37-38 GHz and from non-Government earth stations in the fixed-satellite service (space-to-Earth) in the sub-band 37.5-38 GHz. Non-Government applications for fixed and mobile service use of frequencies in the band 37-38 GHz shall be coordinated with NTIA through the Frequency Assignment Subcommittee within the following coordination areas/distances. The coordinates listed below are specified in terms of the North American Datum of 1983.

In the band 37-38 GHz, the following stations in the space research service (space-to-Earth) have been coordinated:

Site	Coordination Area
NASA Goldstone Deep Space Communications Complex, Goldstone, California	30 kilometer (18.64 mile) radius centered on latitude 35° 9' 00" N, longitude 116° 50' 06" W.
National Radio Astronomy Observatory, Green Bank, West Virginia	Rectangle between latitudes 37° 30' N and 39° 15' N and between longitudes 78° 30' W and 80° 30' W (National Radio Quite Zone)

NON-FEDERAL GOVERNMENT (NG) FOOTNOTES

* * * * *

NGxxx The use of the band 37.5-40 GHz by the fixed-satellite service (space-to-Earth) is limited to gateway earth station operations as set out in 47 C.F.R. Part 25.

* * * * *

PART 101 - FIXED MICROWAVE SERVICES

1. The authority citation for Part 101 would continue to read as follows:

Authority: 47 U.S.C. 154, 303.

2. Section 101.17 would be revised to read as follows:

§101.17 Performance requirements for the 37.0-40.0 GHz and 42.0-42.5 GHz frequency bands.

(a) All 37.0-40.0 GHz and 42.0-42.5 GHz band licensees must demonstrate substantial service at the time of license renewal. A licensee's substantial service showing should include, but not be limited to, the following information for each channel for which they hold a license, in each EA or portion of an EA covered by their license, in order to qualify for renewal of that license. The information provided will be judged by the Commission to determine whether the licensee is providing service which rises to the level of "substantial." Licensees, whether the license was obtained through competitive bidding or partitioning/aggregation/disaggregation, may build facilities anywhere within the authorized service area without further authority from the Commission, provided that they have complied with applicable

Commission requirements. The Commission does not require individual licenses for each terrestrial fixed facility.

(1) A description of the 37.0-40.0 GHz, or 42.0-42.5 GHz band licensee's current service in terms of geographic coverage;

(2) A description of the 37.0-40.0 GHz, or 42.0-42.5 GHz band licensee's current service in terms of population served, as well as any additional service provided during the license term;

(3) A description of the 37.0-40.0 GHz, or 42.0-42.5 GHz band licensee's investments in its system(s) (type of facilities constructed and their operational status is required);

(b) Any 37.0-40.0 GHz and 42.0-42.5 GHz band licensees adjudged not to be providing substantial service will not have their licenses renewed.

* * * * *

3. Sections 101.56(a)(1), (a)(2)(ii), (b), (f), (g), (h) and (i) would be amended to read as follows:

§ 101.56 Partitioned services areas (PSAs) and disaggregated spectrum.

(a)(1) The holder of an EA authorization to provide service pursuant to the competitive bidding process areas in the 37.0-40.0 GHz and 42.0-42.5 GHz bands and any incumbent licensee of rectangular service areas in the 38.6-40.0 GHz band may enter into agreements with eligible parties to partition any portion of its service area as defined by the partitioner and partitionee. Alternatively, licensees may enter into agreements or contracts to aggregate/disaggregate any amount of spectrum, provided acquired spectrum is aggregated/disaggregated in frequency pairs.

(a)(2)(i) • • •

(a)(2)(ii) The contracts must include descriptions of the areas being partitioned or spectrum being aggregated/disaggregated. The partitioned service area shall be defined by coordinate points at every 3 seconds along the partitioned service area unless an FCC recognized service area is utilized (i.e., Metropolitan Service Area or Rural Service Area) or county lines are followed. If geographic coordinate points are used, they must be specified in degrees, minutes, and seconds to the nearest second of latitude and longitude and must be based upon the 1983 North American Datum (NAD83). In the case where an FCC recognized service area or county lines are utilized, applicants need only list the specific area(s) (through use of FCC designations or county names) that constitute the partitioned area.

(b) The eligibility requirements applicable to EA authorization holders also apply to those individuals and entities seeking partitioned or aggregated/disaggregated spectrum authorizations.

(c) • • •

(d) • • •

(e) • • •

(f) The duties and responsibilities imposed upon EA authorization holders in this part, apply to those licensees obtaining authorizations by partitioning or spectrum aggregation/disaggregation.

(g) The build out requirements for the partitioned service area or aggregated/disaggregated spectrum shall be the same as applied to the EA authorization holder.

(h) The license term for the partitioned service area or aggregated/disaggregated spectrum shall be the remainder of the period that would apply to the EA authorization holder.

(i) Licensees, including those using bidding credits in a competitive bidding procedure, shall have the authority to partition service areas or aggregated/disaggregate spectrum.

* * * * *

4. New Section 101.58 would be added to read as follows:

§ 101.58 System operations.

(a) The licensee in the 37.0-40.0 GHz and 42.0-42.5 GHz bands may construct and operate any number of fixed stations anywhere within the area authorized by the license without prior authorization, except as follows:

(1) A station is required to be individually licensed under Part 101 if:

(i) International agreements require coordination;

(ii) Submission of an Environmental Assessment is required under § 1.1307 of this chapter.

(iii) The station would affect the radio quiet zones under § 1.924 of this chapter.

(2) Any antenna structure that requires notification to the Federal Aviation Administration (FAA) must be registered with the Commission prior to construction under § 17.4 of this chapter.

(3) Frequencies in the 37.0-38.6 GHz band are co-primary and shared with the Government. All parties concerned should complete coordination based on a first in time sharing basis and obtain coordination agreements with prior licensed facility operators before operating.

(b) Whenever a licensee constructs or makes system changes as described in paragraph (a) of this section, the licensee is required to notify the Commission within 30 days of the change under § 1.947 of this chapter and include a statement of the technical parameters of the changed station.

5. Section 101.63 would be amended by revising paragraph (a) to read as follows:

§ 101.63 Period of construction; certification of completion of construction.

(a) Each station, except in Local Multipoint Distribution Services, 24 GHz Service, the 37.0-40.0 GHz and 42.0-42.5 GHz bands, authorized under this part must be in operation within 18 months from the initial date of grant. For the 70 GHz, 80 GHz, and 90 GHz bands, each 18-month construction period will commence on the date of each registration of each individual link; adding links will not change the overall renewal period of the license.

* * * * *

6. Section 101.64 would be revised to read as follows:

§ 101.64 Service areas.

Service areas for 37.0-40.0 GHz and 42.0-42.5 GHz service are Economic Areas (EAs) as defined below and in effect as of April 12, 2000. EAs are delineated by the Regional Economic Analysis Division, Bureau of Economic Analysis, U.S. Department of Commerce, 1995. The Commerce Department organizes the 50 States and the District of Columbia into 172 EAs. Additionally, there are four EA-like areas: Guam and Northern Mariana Islands; Puerto Rico and the U.S. Virgin Islands; American Samoa and the Gulf of Mexico. A total of 175 authorizations (excluding the Gulf of Mexico EA-like area) will be issued for each channel block in the 37.0-40.0 GHz and 42.0-42.5 GHz bands.

* * * * *

7. Section 101.101 would be amended by adding to the table entries for 37,000-38,600 MHz and 42,000-42,500 MHz to read as follows:

§ 101.101 Frequency availability.

FREQUENCY BAND (MHz)	RADIO SERVICE				
	COMMON CARRIER (Part 101)	PRIVATE RADIO (Part 101)	BROADCAST AUXILIARY (Part 74)	OTHER (Parts 15, 21, 22, 24, 25, 74 78 & 100)	NOTES
* * *					
37,000-38,600	CC	OFS		25	F/M/TF
38,600-40,000	CC	OFS	TV BAS	25	F/M/TF
42,000-42,500	CC	OFS			F/M/TF
* * *	* * *	* * *	* * *	* * *	* * *

* * * * *

8. Section 101.103(i) would be amended and new sections 101.103(j) and (k) would be added to read as follows:

§ 101.103 Frequency coordination procedures.

* * *

(i)(1)(a) When fixed microwave or fixed satellite earth station facilities licensed under Part 101 are to be operated in the band 37,000 MHz to 40,000 MHz or 42,000 MHz to 42,500 MHz, the following coordination procedures shall apply:

(b) All harmful interference to other users and blocking of adjacent channel use in the same or adjacent geographical area is prohibited. In areas near the border between two licensees' service areas, careful consideration should be given to minimum power requirements and to the location, height, and radiation pattern of the transmitting antenna. Licensees are expected to cooperate fully in attempting to resolve problems of potential interference before bringing the matter to the attention of the Commission.

(c) Each licensee must engineer its system to be reasonably compatible with adjacent and co-

channel operations in the same or adjacent areas, and cooperate fully and in good faith to resolve whatever potential interference and transmission security problems may be present in adjacent and co-channel operations.

(d) A licensee shall coordinate its facilities whenever the facilities have optical line-of-sight (calculated using the formula $d=3.57\sqrt{h}$, where d is the distance between the antenna and the horizon in kilometers and h is the antenna height in meters) into another licensee's geographic area where that licensee's facilities may be located or into another licensee's facilities within the same or adjacent geographic area, and the power flux density of the licensee's system calculated at the service area boundary of the neighboring service area(s) exceeds -125 dBW/m^2 in any 1 megahertz band. This line of site should take into consideration all the possible relevant heights of the other licensee's antenna(s). Power flux density is calculated using accepted engineering practices, taking into account such factors as propagation loss, atmospheric loss, curvature of the Earth, and gain of the antenna in the direction of the service area boundary. Licensees are encouraged to develop operational agreements with relevant licensees in the same or adjacent areas.

(e) In the event no licensee in the bands 37,000 MHz to 40,000 MHz or 42,000 MHz to 42,500 MHz is immediately available in an adjacent or same area, the first-in-time licensee would have to coordinate its stations when future licensees appear in order to accommodate other licensees' rights and to ensure cooperative and effective use of the spectrum in each area. This may include reducing powers to levels which are agreeable to both parties.

(i)(2) Response to notification should be made as quickly as possible, even if no technical problems are anticipated. Any response to notification indicating potential interference must specify the technical details and must be provided to the licensee, either electronically or in writing, within 10 days of notification. Every reasonable effort should be made by all licensees to eliminate all problems and conflicts. If no response to notification is received within 10 days, the licensee will be deemed to have made reasonable efforts to coordinate and may commence operation without a response. The beginning of the 10-day period is determined pursuant to §101.103(d)(2)(v).

(i)(3) Licensees shall comply with the appropriate coordination agreements between the United States and Canada and the United States and Mexico concerning cross-border sharing and use of the 37.0-40. GHz and 42.0-42.5 GHz bands.

(j) *Special consideration for coordinating with Government stations in the 37-38.6 GHz band:* (1) In the band 37-38 GHz, use of the space research service (space-to-Earth) shall be on a primary basis only at Goldstone, California. Stations in the fixed and mobile services within 80 kilometers (50 miles) of 35° 18' North Latitude and 116° 54' West Longitude shall be coordinated through through contacting the facility directly. Stations in the 37.0-38.6 GHz band in the vicinity of Green Bank, West Virginia must also coordinate as required by Section 1.924. The interference protection criterion to these facilities is -130 dBW/m^2 in any 1 MHz, and licensees must obtain letters of approval for their operations from the relevant Government facility. Other uses of the space research service (space-to-Earth) in the band 37-38 GHz shall be on a secondary basis.

(2) Non-Government licensees the 37-38.6 GHz band must register their technical data electronically into the ULS for each station in each of their geographic areas in order to make available accurate information on the use of the facilities and also to implement the "first-in-time" principle for coordination with Government facilities. This data shall include: 1) the date of the initial operating capability (IOC) of each station, 2) specific information identifying the station locations, 3) technical operating capabilities of the stations, including all of the power and antenna characteristics specified in Section 101.103(d)(2)(ii) of this section, and 4) whether the station has optical line-of-site to another facility with which it is being coordinated, if known at the time. If it is determined that optical line-of-site does not exist, the applicant should explain the determination. This site-based information shall be entered into the record of the area license in the ULS database by electronically registering notifications to the initial FCC Form 601 using Schedule I, but not more than twelve (12) months before operations are scheduled to begin.

(3) The FCC will note the activation date of the station, but will not make a determination that any of the information is correct or acceptable for filing. Coordination involving current and future Government facilities will require licensees and applicants to ensure that their data is accurately reflected

in the ULS.

(4) Government operators with existing facilities in the 37.0-38.6 GHz band should cooperate in the coordination process by responding to non-Government coordination notifications. Government operators with new stations to coordinate can identify and directly access the technical information of the non-Government licensees through the ULS. Examining the data in the ULS before formally coordinating with the FCC in the appropriate frequency band and geographic service area may speed up the frequency selection process. Government operators with new stations should notify the FCC through the IRAC process with sufficient technical detail to determine whether potential interference is possible with facilities of our licensees/applicants.

(5) *Non-Government Operations Coordinating with Existing Government Operations.* Non-Government terrestrial users in the band 37.0-38.6 GHz, and also operators who wish to protect an FSS (downlink) earth station in the band 37.5-38.6 GHz, shall coordinate with the existing military terrestrial Government facilities in 37.0-38.6 GHz (existing stations are identified in Appendix E) through the ULS and IRAC process. The proposed coordination triggers for non-Government stations are that the antenna must have optical line-of-sight to the Government facilities and that the PFD at the site exceeds a threshold of -125 dBW/m^2 in any 1 MHz band. Harmful interference is not anticipated if neither of these conditions exist. The FCC and NTIA will resolve interference problems referred to them to their mutual satisfaction based on first-in-time sharing basis.

(6) *Non-Government Operations Coordinating with Future Government Operations.* Government terrestrial users in the band 37.0-38.6 GHz, and also operators who are required to protect an FSS (downlink) earth station in the band 37.5-38.6 GHz, are required to coordinate with future Government SRS (downlink space research antennas) operations and Government terrestrial facilities in the band 37.0-38.6 GHz at locations not identified at this time. The coordination triggers for non-Government stations are that the antenna must be within optical line-of-sight of an authorized Government site and that the station have a PFD at the site exceeding a threshold of -130 dBW/m^2 in any 1 MHz band for the SRS (downlink) operations and -125 dBW/m^2 in any 1 MHz band for the terrestrial facilities. Harmful interference is not anticipated if neither of these conditions exist. The coordinating parties are expected to resolve interference protection to their mutual satisfaction based on first-in-time sharing or to derive written sharing agreements.

(7) *Government Operations Coordinating with Future Non-Government Operations.* Government SRS (downlink space research antennas) users and Government terrestrial users in the 37.0-38.6 GHz band are expected to coordinate with existing and future non-Government operations. The coordination triggers for Government SRS stations are that the antenna have optical line-of-sight to an authorized non-Government site and have a vulnerability threshold PFD at the SRS receiver of -130 dBW/m^2 in any 1 MHz band. The coordinating parties are expected to resolve interference protection to their mutual satisfaction based on first-in-time sharing. The coordination triggers for Government terrestrial stations are that the transmitting antenna have optical line-of-sight to the site of an authorized non-Government facility and have a PFD at the non-Government site exceeding a threshold of -125 dBW/m^2 in any 1 MHz band. The FCC and NTIA will resolve interference problems referred to them to their mutual satisfaction based on first-in-time sharing.

(k) *Special consideration for coordinating Government stations in the 39.5-40.06 GHz band.* Government operators who are required to coordinate and protect non-Government terrestrial stations or FSS (downlink) earth stations in the band 39.5-40 GHz shall coordinate directly with the existing non-Government licensee for any earth stations located on military bases, and with the non-Government terrestrial licensee in whose service area the Government earth station is to be located. All parties concerned should resolve the coordination problems based on a first in time sharing basis and obtain coordination agreements with prior licensed facility operators.

* * * * *

9. Section 101.107 would be amended by revising note 9 to the table in paragraph (a) to read as follows:

§ 101.107 Frequency tolerance.

(a) • • •

/9/ Equipment authorized to be operated in the 37,000-40,000 MHz, 42,000-42,500 MHz, 71,000-76,000 MHz, 81,000-86,000 MHz, 92,000-94,000 MHz and 94,100-95,000 MHz bands is exempt from the frequency tolerance requirement noted in the above table.

* * * * *

10. Section 101.109 would be amended by removing the entry for 38,600-40,000 MHz and adding entries for 37,000-40,000 MHz and for 42,000-42,500 MHz and revising footnote 7 to read as follows:

§ 101.109 Bandwidth.

* * * * *

(c) * • •

Frequency Band (MHz)	Maximum Authorized Bandwidth
* * *	* * *
37,000 to 40,000	50 MHz /7/
42,000 to 42,500	50 MHz /7/
* * *	* * *

/7/ For channel block assignments in the 24,250-25,250 MHz, 37,000-40,000 MHz, and 42,200-42,500 MHz bands, the authorized bandwidth is equivalent to an unpaired channels block assignment or to either half of a symmetrical paired channel block assignment. When adjacent channels are aggregated, equipment is permitted to operate over the full channel block aggregation without restriction.

Note to Footnote 7: • • •

* * * * *

11. Section 101.113(a) would be amended by removing the entry for 38,600-40,000 MHz and adding entries in the table for 37,000-40,000 MHz and for 42,000-42,500 MHz to read as follows:

§ 101.113 Transmitter power limitations.

(a) • • •

Frequency Band (MHz)	Maximum allowable EIRP [1 2]	
	Fixed (dBW)	Mobile (dBW)
* * *	* * *	* * *
37,000 to 40,000	+55	.....
42,000 to 42,500	+55	.....

Frequency Band (MHz)	Maximum allowable EIRP [1 2]	
	Fixed (dBW)	Mobile (dBW)
* * *	* * *	* * *

* * * * *

12. Section 101.115 would be amended by adding entries in the table for 37,000-40,000 MHz and 42,000-42,500 MHz, deleting the entry for 38,600-40,000 MHz, and by revising footnote 14 in paragraph (c) to read as follows:

§ 101.115 Directional antennas.

* * * * *

(c) * * * * *

* * *										
31,000 to 31,300 [12,13]	n/a	4 0	38	n/a	n/a	n/a	n/a	n/a	n/a	n/a
37,000 to 40,000 [14]	A	n/a	38	25	29	33	36	42	55	55
	B	n/a	38	20	24	28	32	35	36	36
42,000 to 42,500 [14]	A	n/a	38	25	29	33	36	42	55	55
	B	n/a	38	20	24	28	32	35	36	36

* * *

[14]Stations authorized to operate in these bands may use antennas other than those meeting the Category A standard. However, the Commission may require the use of higher performance antennas where interference problems can be resolved by the use of such antennas.

* * * * *

13. Section 101.147(v) would be amended to read as follows:

§ 101.147 Frequency Assignments

* * *

(v)(1) Assignments in the bands 37,000-40,000 MHz and 42,000-42,500 MHz must be according to the following frequency plan:

[Option 1] unpaired channels are at lower end of 37.0-38.6 GHz

Paired Channel Blocks

Channel Group A		Channel Group B	
Channel No.	Frequency Block (MHz)	Channel No.	Frequency Block (MHz)
1-A	38,600-38,650	1-B	39,300-39,350
2-A	38,650-38,700	2-B	39,350-39,400
3-A	38,700-38,750	3-B	39,400-39,450
4-A	38,750-38,800	4-B	39,450-39,500
5-A	38,800-38,850	5-B	39,500-39,550
6-A	38,850-38,900	6-B	39,550-39,600
7-A	38,900-38,950	7-B	39,600-39,650
8-A	38,950-39,000	8-B	39,650-39,700
9-A	39,000-39,050	9-B	39,700-39,750
10-A	39,050-39,100	10-B	39,750-39,800
11-A	39,100-39,150	11-B	39,800-39,850
12-A	39,150-39,200	12-B	39,850-39,900
13-A	39,200-39,250	13-B	39,900-39,950
14-A	39,250-39,300	14-B	39,950-40,000
19-A	37,200-37,250	19-B	37,900-37,950
20-A	37,250-37,300	20-B	37,950-38,000
21-A	37,300-37,350	21-B	38,000-38,050
22-A	37,350-37,400	22-B	38,050-38,100
23-A	37,400-37,450	23-B	38,100-38,150
24-A	37,450-37,500	24-B	38,150-38,200
25-A	37,500-37,550	25-B	38,200-38,250
26-A	37,550-37,600	26-B	38,250-38,300
27-A	37,600-37,650	27-B	38,300-38,350
28-A	37,650-37,700	28-B	38,350-38,400
29-A	37,700-37,750	29-B	38,400-38,450
30-A	37,750-37,800	30-B	38,450-38,500
31-A	37,800-37,850	31-B	38,500-38,550
32-A	37,850-37,900	32-B	38,550-38,600
33-A	42,000-42,050	33-B	42,250-42,300
34-A	42,050-42,100	34-B	42,300-42,350
35-A	42,100-42,150	35-B	42,350-42,400
36-A	42,150-42,200	36-B	42,400-42,450
37-A	42,200-42,250	37-B	42,450-42,500

Unpaired Channel Blocks	
Channel No.	Frequency Block (MHz)
15	37,000-37,050
16	37,050-37,100
17	37,100-37,150
18	37,150-37,200

[Option 2] unpaired channels are at upper end of 37.0-38.6 GHz

Paired Channel Blocks			
Channel Group A		Channel Group B	
Channel No.	Frequency Block (MHz)	Channel No.	Frequency Block (MHz)
1-A	38,600-38,650	1-B	39,300-39,350
2-A	38,650-38,700	2-B	39,350-39,400
3-A	38,700-38,750	3-B	39,400-39,450

4-A	38,750-38,800	4-B	39,450-39,500
5-A	38,800-38,850	5-B	39,500-39,550
6-A	38,850-38,900	6-B	39,550-39,600
7-A	38,900-38,950	7-B	39,600-39,650
8-A	38,950-39,000	8-B	39,650-39,700
9-A	39,000-39,050	9-B	39,700-39,750
10-A	39,050-39,100	10-B	39,750-39,800
11-A	39,100-39,150	11-B	39,800-39,850
12-A	39,150-39,200	12-B	39,850-39,900
13-A	39,200-39,250	13-B	39,900-39,950
14-A	39,250-39,300	14-B	39,950-40,000
15-A	37,000-37,050	15-B	37,700-37,750
16-A	37,050-37,100	16-B	37,750-37,800
17-A	37,100-37,150	17-B	37,800-37,850
18-A	37,150-37,200	18-B	37,850-37,900
19-A	37,200-37,250	19-B	37,900-37,950
20-A	37,250-37,300	20-B	37,950-38,000
21-A	37,300-37,350	21-B	38,000-38,050
22-A	37,350-37,400	22-B	38,050-38,100
23-A	37,400-37,450	23-B	38,100-38,150
24-A	37,450-37,500	24-B	38,150-38,200
25-A	37,500-37,550	25-B	38,200-38,250
26-A	37,550-37,600	26-B	38,250-38,300
27-A	37,600-37,650	27-B	38,300-38,350
28-A	37,650-37,700	28-B	38,350-38,400
33-A	42,000-42,050	33-B	42,250-42,300
34-A	42,050-42,100	34-B	42,300-42,350
35-A	42,100-42,150	35-B	42,350-42,400
36-A	42,150-42,200	36-B	42,400-42,450
37-A	42,200-42,250	37-B	42,450-42,500

Unpaired Channel Blocks	
Channel No.	Frequency Block (MHz)
29	38,400-38,450
30	38,450-38,500
31	38,500-38,550
32	38,550-38,600

(v)(2) Channel Blocks 1 through 37 are assigned for use within Economic Areas (EAs). Applicants are to apprise themselves of any licensed rectangular service areas in the band 38,6000-40,000 MHz within the EA for which they seek a license and comply with the requirements set out in § 101.103. All of the channel blocks may be subdivided as desired by the licensee as frequency pairs and used within its service area as desired without further authorization subject to the terms and conditions set out in § 101.149.

* * * * *

14. Section 101.149 would be revised by revising the title and introductory paragraph and adding subparagraphs (d) and (e) to read as follows:

§ 101.149 Special requirements for operation in the bands 37,000-40,000 MHz, and 42,000-42,500 MHz.

Assigned frequency channels in the bands 37,000-40,000 MHz, and 42,000-42,500 MHz may be aggregated/disaggregated with no limits and used anywhere in the authorized service area, subject to the following terms and conditions:

* * *

(d) Point-to-point, point-to-multipoint, fixed and mobile terrestrial operations (upon adoption of interference protection criteria for mobile operations) shall be permitted in the bands 37,000-40,000 MHz, and 42,000-42,500 MHz. Fixed satellite earth station operations may also be permitted if the license is obtained through competitive bidding, partitioning, and/or aggregation/disaggregation under Part 101.

(e) For the frequency bands 37,000-40,000 MHz, and 42,000-42,500 MHz, spectrum must be aggregated/disaggregated by frequency pairs.

* * * * *

15. Subpart N of Part 101 would be amended by revising the title to read as follows:

Competitive Bidding Procedures for the 37.0-40.0 GHz and 42.0-42.5 GHz Bands

* * *

16. Section 101.1201 would be revised to read as follows:

§ 101.1201 37.0-40.0 GHz and 42.0-42.5 GHz subject to competitive bidding.

Mutually exclusive initial applications for 37.0-40.0 GHz and 42.0-42.5 GHz band licenses are subject to competitive bidding. The general competitive bidding procedures set forth in 47 CFR Part 1, Subpart Q will apply unless otherwise provided in this subpart.

17. Section 101.12XX as added (rule number to be determined later) would read as follows:

§ 101.12XX Designated Entities.

(a) Eligibility for small business provisions.

(1) A small business is an entity that, together with its affiliates, its controlling interests and the affiliates of its controlling interests, has average gross revenues that are not more than $40 million for the preceding three years.

(2) A very small business is an entity that, together with its affiliates, its controlling interests and the affiliates of its controlling interests, has average gross revenues that are not more than $15 million for the preceding three years.

(b) Bidding credits.

(1) A winning bidder that qualifies as a small business, as defined in this section, or a consortium of small businesses may use a bidding credit of 15 percent, as specified in § 1.2110(f)(2)(iii), to lower the cost of its winning bid on any of the licenses in this part.

(2) A winning bidder that qualifies as a very small business, as defined in this section, or a consortium of very small businesses may use a bidding credit of 25 percent, as specified in § 1.2110(f)(2)(ii), to lower the cost of its winning bid on any of the licenses in this part.

* * * *

APPENDIX B

Initial Regulatory Flexibility Analysis

As required by the Regulatory Flexibility Act of 1980, as amended (RFA),[1] the Commission has prepared this present Initial Regulatory Flexibility Analysis (IRFA) of the possible significant economic impact on a substantial number of small entities by the policies and rules proposed in this *Third Notice of Proposed Rule Making (Third NPRM)*. Written public comments are requested on this IRFA. Comments must be identified as responses to the IRFA and must be filed by the deadlines for comments on this *Third NPRM* provided in Section IV, (Procedural Matters), of the item. The Commission will send a copy of the *Third NPRM*, including this IRFA, to the Chief Counsel for Advocacy of the Small Business Administration.[2] In addition, the *Third Notice* and IRFA (or summaries thereof) will be published in the Federal Register.[3]

A. Need for, and Objectives of, the Notice of Proposed Rulemaking

This rulemaking action is being undertaken to propose a licensing plan, a channeling plan, certain technical rules, and competitive bidding procedures for the 37.0-38.6 and 42.0-42.5 ("37/42") GHz spectrum bands. Currently, there are no such rules in place for these bands. Our objective is to facilitate spectrum aggregation, equipment development and service planning, and otherwise to create rules that will maximize efficient use of these bands, and that are in the public interest. We note specifically that, as described below, we propose to provide bidding credits to small and very small businesses.

B. Legal Basis for Proposed Rules

The proposed action is authorized under Sections 1, 4(i), 7, 301, 303, 308 and 309(j) of the Communications Act of 1934, as amended, 47 U.S.C. §§ 151, 154(i), 157, 301, 303, 308, 309(j).

C. Description and Estimate of the Small Entities to Which Rules Will Apply

The RFA requires that an initial regulatory flexibility analysis be prepared for notice and comment rulemaking proceedings, unless the Agency certifies that "the rule will not, if promulgated, have a significant impact on a substantial number of small entities.[4] The RFA generally defines the term "small entity" as having the same meaning as the terms "small business," "small organization," and "small governmental jurisdiction."[5] In addition, the term "small business" has the same meaning as the term "small business concern" under the Small Business Act.[6] A "small business concern" is one which: (1) is

[1] *See* 5 U. S. C. § 603. The RFA, see 5 U.S.C. §§ 601-612 has been amended by the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA), Pub. L. No. 104-121, Title II, 110 Stat. 857 (1996).

[2] *See* 5 U.S.C § 603(a)

[3] *See id.*

[4] 5 U.S.C. § 603(b)(3).

[5] *Id.* at § 601(6)

[6] 5 U.S.C. § 601(3) (incorporating by reference the definition of "small business concern" in 15 U.S.C. § 632). Pursuant to the RFA, the statutory definition of a small business applies "unless an agency, after consultation with the Office of Advocacy of the Small Business Administration and after opportunity for public comment, establishes definition(s) in the Federal Register." 5 U.S.C. § 601(3).

independently owned and operated; (2) is not dominant in its field of operation; and (3) satisfies any additional criteria established by the Small Business Administration (SBA).[7] A small organization is generally "any not-for-profit enterprise which is independently owned and operated and is not dominant in its field."[8] This IRFA describes and estimates the number of small entity licensees that may be affected if the proposals in this *Third NPRM* are adopted.

When identifying small entities that could choose to participate in an auction and be affected by our new rules, we provide information describing auctions results, including the number of small entities that are winning bidders. We note, however, that the number of winning bidders that qualify as small businesses at the close of an auction does not necessarily reflect the total number of small entities currently in a particular service. The Commission does not generally require, post-auction, that applicants provide business size information, except in the context of an assignment or transfer of control application where unjust enrichment issues are implicated. Consequently, to assist the Commission in analyzing the total number of potentially affected small entities, we request commenters to estimate the number of small entities that may be affected by any rule changes resulting from this *Third NPRM.*

National Figures:

1. **Small Businesses.** Nationwide, there are a total of 22.4 million small businesses, according to SBA data.[9]

2. **Small Organizations.** Nationwide, there are approximately 1.6 million small organizations.[10]

3. **Small Governmental Jurisdictions.** The term "small governmental jurisdiction" is defined as "governments of cities, towns, townships, villages, school districts, or special districts, with a population of less than fifty thousand."[11] As of 1997, there were approximately 87,453 governmental jurisdictions in the United States.[12] This number includes 39,044 county governments, municipalities, and townships, of which 37,546 (approximately 96.2%) have populations of fewer than 50,000, and of which 1,498 have populations of 50,000 or more. Thus, we estimate the number of small governmental jurisdictions overall to be 84,098 or fewer.

Wireless Service Providers.

The SBA has developed a small business size standard for wireless small businesses within the two separate categories of **Paging**[13] and **Cellular and Other Wireless Telecommunications.**[14] Under both

[7] 15 U.S.C. § 632.

[8] 5 U.S.C. § 601(4).

9 *See* SBA, *Programs and Services*, SBA Pamphlet No. CO-0028, at page 40 (July 2002).

10 Independent Sector, *The New Nonprofit Almanac & Desk Reference* (2002).

11 5 U.S.C. § 601(5).

12 U.S. Census Bureau, *Statistical Abstract of the United States: 2000*, Section 9, pages 299-300, Tables 490 and 492.

[13] 13 C.F.R. § 121.201, North American Industry Classification System (NAICS) code 517211 (changed from 513321 in October 2002).

[14] 13 C.F.R. § 121.201, North American Industry Classification System (NAICS) code 517211 (changed from 513321 in October 2002).

SBA categories, a wireless business is small if it has 1,500 or fewer employees. According to Commission data,[15] 1,387 companies reported that they were engaged in the provision of wireless service. Of these 1,387 companies, an estimated 945 have 442 or fewer employees and 586 have more than 1,500 employees.[16] Consequently, the Commission estimates that most wireless service providers are small entities that may be affected by the rules and policies adopted herein

39 GHz Service. The Commission created a special small business size standard for 39 GHz licenses – an entity that has average gross revenues of $40 million or less in the three previous calendar years.[17] An additional size standard for "very small business" is: an entity that, together with affiliates, has average gross revenues of not more than $15 million for the preceding three calendar years.[18] The SBA has approved these small business size standards.[19] The auction of the 2,173 39 GHz licenses began on April 12, 2000 and closed on May 8, 2000. The 18 bidders who claimed small business status won 849 licenses. Consequently, the Commission estimates that 18 or fewer 39 GHz licensees are small entities that may be affected by the rules and polices proposed herein.

D. Description of the Projected Reporting, Recordkeeping, and Other Compliance Requirements

Generally, all applicants are required to seek authorizations to construct and operate and to adhere to the technical criteria set out in the final rules. However, this *Third NPRM* proposes service rules and auction rules for the 37.0-38.6 GHz band and the 42.0-42.5 GHz band ("37/42 GHz bands") either by a geographic area licensing approach or the first-come, first-served link-by-link registration approach, in order to coordinate spectrum use that will affect reporting, recordkeeping and other compliance requirements. Each of these changes is described below:

The *Third NPRM* proposes to require users in the 37/42 GHz bands to coordinate procedures with the National Telecommunications and Information Administration (NTIA) in negotiations with non-Government and Government stations in the band and that these negotiations would apply the geographic area licensing regulatory framework. However, independent of the licensing approach the Commission chooses, the basic coordination procedures with NTIA will be the same because they are based on a site-by-site method, consistent with Section IV(6) of the Memorandum of Understanding (MOU) between the Commission and NTIA dated January 31, 2003, wherein the Commission and NTIA would maintain current lists of authorized frequency assignments on the ULS and the Government Master File (GMF) and exchange information as appropriate to coordinate spectrum use.[20] Also, the site-based coordination

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[15] FCC, Wireline Competition Bureau, Industry Analysis and Technology Division, "Trends in Telephone Service" at Table 5.3, page 5-5 (Aug. 2003). This source uses data that are current as of December 31, 2001.

[16] *Id*

17 *See* Amendment of the Commission's Rules Regarding the 37.0-38.6 GHz and 38.6-40.0 GHz Bands, ET Docket No. 95-183, *Report and Order*, 12 FCC Rcd 18600 (1997), 63 Fed.Reg. 6079 (Feb. 6, 1998).

18 *Id.*

19 *See* Letter to Kathleen O'Brien Ham, Chief, Auctions and Industry Analysis Division, Wireless Telecommunications Bureau, FCC, from Aida Alvarez, Administrator, SBA (Feb. 4, 1998) (VoIP); *See* Letter to Margaret Wiener, Chief, Auctions and Industry Analysis Division, Wireless Telecommunications Bureau, Federal Communications Commission, from Hector Barreto, Administrator, Small Business Administration, dated January 18, 2002 (WTB).

[20] Memorandum of Understanding between the Federal Communications Commission and the National Telecommunications and Information Administration (Jan. 31, 2003)(*"FCC/NTIA MOU"*).

procedures proposed here involve coordination between the Interdepartment Radio Advisory Committee (IRAC), Commission licensees, and Government agencies through the Commission, which represents the non-Government facilities, and the NTIA, which represents the Government agencies. Problems would be referred by the Commission back to its licensees/applicants and by the NTIA to Government agencies for resolution.

The *Third NPRM* proposes to require non-Government operators/licensees in the 37.0-38.6 GHz frequency band to maintain databases of their fixed stations, including sufficient data for other licensees, coordinators, and the Government to make a determination of potential interference. Non-Government licensees would have the option of maintaining their own databases for their facilities or of selecting third-party database managers, frequency coordinators, or other entities to maintain their database of facilities. The database manager would be responsible to the licensee and would share the technical data with the Commission and other database managers as needed for proper coordination, and retain records of the coordination agreements with other parties. All coordination agreements would remain in force in the event the licensee transfers its license, partitions its service area, or disaggregates its spectrum, until new agreements are reached.

The *Third NPRM* proposes to require the non-Government operators/licensees to make available all necessary technical database information to the Commission in a timely and convenient manner sufficient for resolving interference complaints with NTIA in the event of disputes. The *Third NPRM* also proposes to require non-Government licensees to register their technical data electronically into the ULS for each station in their authorized service areas in order to make available accurate information with Government facilities such as, the date of the initial operating capability of each station, specific information identifying the station locations, technical operating capabilities of the stations, and, if known, whether the station has optical line-of-site to another facility with which it is being coordinated. This site-based information would be entered into the record of the area license in the ULS database by electronically registering notifications to the initial Commission Form 601 using Schedule I, but not more than twelve (12) months before operations are scheduled to begin. The *Third NPRM* also proposes that notification and response for site-by-site coordination for geographic area licensees requires variations in the general coordination procedures as given in Section 101.103 of our rules. The *Third NPRM* further proposes that geographic area licensees must select site frequencies within their assignment blocks of spectrum and initiate the coordination process by notifying the other parties with whom they must coordinate and that registrations of licensee sites on Schedule I of Form 601 must include the licensees determination of whether possible optical line-of-site exists to relevant (future) Government facilities. If it is determined that optical line-of-site does not exists, the applicant is required to explain the determination. Coordination involving existing and future Government facilities would require licensees and applicants to ensure that their data is accurately reflected in ULS.

The *Third NPRM* also proposes that licensees would be required to follow existing practices and precedents regarding fees associated with initial licenses, and to file notifications in the ULS to supply the technical information needed to coordinate each station with Government facilities. When revisions to ULS are developed for adding the capability to handle licensees in the 37.0-38.6 GHz band, the capability to collect this additional site-based information for notifications would be added to the capability to handle "initial" auction winners as licensees.

The *Third NPRM* proposes to conduct an auction of initial exclusive area licenses in the 37/42 GHz band which would be required to conform with general competitive bidding rules set out in Part 1, Subpart Q, of our rules, substantially consistent with the bidding procedures that have been employed in previous auctions, and specifically, rules governing competitive bidding design, designated entities, application and payment procedures, reporting requirements, collusion issues, and unjust enrichment.[21] In

[21] *See* Section III-J, *supra*.

this connection, the *Third NPRM* also would require, pursuant to Section 309(j) of the Communications Act, resolution of such applications by competitive bidding.

E. Steps Taken to Minimize Significant Economic Impact on Small Entities, and Significant Alternatives Considered

The RFA requires an agency to describe any significant, specifically small business, alternatives that it has considered in reaching its proposed approach, which may include the following three alternatives (among others): "(1) the establishment of differing compliance or reporting requirements or timetables that take into account the resources available to small entities; (2) the clarification, consolidation, or simplification of compliance or reporting requirements under the rule for small entities; (3) the use of performance, rather than design, standards; and (4) an exemption from coverage of the rule, or any part thereof, for small entities."[22]

In the *Third NPRM*, we propose service and auction rules for the 37/42 GHz bands in order to establish a flexible regulatory and licensing framework that would promote seamless deployment of a host of services and technologies. We seek comment on the possibility of conducting an auction – where applications are mutually exclusive and issuing exclusive licenses for the 37/42 GHz bands on a geographic basis. We believe that our proposed approach would provide a variety of businesses with the opportunity to participate in an auction of licenses in this band and afford licensees substantial flexibility for the provision of services with varying capital costs. We also believe that geographic area licensees in these bands would be presented with issues and costs similar to those presented to 39 GHz band licensees, including those involved in developing markets, technologies, and services. Smaller service areas make it easier for small businesses to bid successfully for licenses, but viable businesses may require larger service areas. We believe that the technical rules that apply to the 39 GHz band would also be appropriate for the 37/42 GHz bands, if we decide to adopt a geographic area licensing approach. It would be inappropriate to apply the 70/80/90 GHz technical rules to the 37/42 GHz bands because the bands differ significantly from each other. Because the 37/42 GHz band has such a large amount of spectrum, license portions of these blocks by Economic Areas (EAs) or other portions on a site-by-site basis could be other alternatives. By using this combined approach to licensing, the Commission may address the needs of large entities, as well as smaller businesses, including public safety entities. Therefore, we also seek comment on the benefits of having some spectrum licensed by geographic areas and some spectrum licensed on a site-by-site basis. As an alternative, we could also pair some of the channels in the 37.0-38.6 GHz portion with some of the channels in the 42.0-42.5 GHz portion or allocate channel sizes of 30 or 40 megahertz or even smaller. Perhaps smaller channels might allow for smaller businesses and private entities to effectively compete for spectrum needed for more limited applications without needing to obtain a larger amount of spectrum that would require substantial outlays of initial investment.[23] We hope that these alternatives, which might especially affect small entity participation in the auction, will be addressed by commenters.

We note that if we adopt a geographic area licensing framework, we propose to permit 37/42 GHz licensees to partition and disaggregate spectrum freely within those bands. These options tend to assist small entities. For the geographic area approach, we propose to allow partitioning of any licensee-defined service area, disaggregation of any amount of spectrum[24] and combined partitioning and

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[22] 5 U.S.C. §§ 603(c)(1)-(c)(4).

[23] *See* 47 U.S.C. § 309(j)(4)(D)

[24] We propose to require licensees to maintain any channel pairs that we might establish for the 37/42 GHz bands when the licensees choose to disaggregate any of their licenses in this band, as we do for 39 GHz licensees. *See Report and Order and Second NPRM*, 12 FCC Rcd at 18,635 ¶ 72, and as herein proposed for application to the 37/42 GHz bands and codification at 47 C.F.R. § 101.149(e). We have not decided whether to adopt a channel plan. (continued....)

disaggregation. The *Third NPRM* proposes to permit the 37/42 GHz bands to partition and disaggregate spectrum if the Commission adopts a geographic area licensing framework using EAs by competitive bidding and through private negotiation and agreement. Our Part 1 unjust enrichment provisions would govern partitioning and disaggregation arrangements involving licenses authorized to small businesses afforded a bidding credit, including those that later elect to partition or disaggregate their licenses to an entity that is not eligible for the same bidding credit. In addition, Section 309(j)(3)(B) of the Communications Act provides that, in establishing eligibility criteria and bidding methodologies, the Commission shall promote "economic opportunity and competition . . . by avoiding excessive concentration of licenses and by disseminating licenses among a wide variety of applicants, including small businesses, rural telephone companies, and businesses owned by members of minority groups and women."[25] The Commission concluded in the *First NPRM and Order*, that it should make partitioning and disaggregation available to all 39 GHz licensees, because these capabilities would promote flexibility both in system design and service, and encourage new entrants into the market by creating smaller, less capital-intensive service areas that may be more accessible to small entities.[26]

In contrast, in the *70/80/90 GHz Report and Order*, the Commission noted that the use of partitioning and disaggregation is pertinent only in geographic licensing settings, where the licensee has exclusive use of a particular area. It determined that its decision to authorize the 70/80/90 GHz bands on the basis of nationwide non-exclusive licensing obviated the need for partitioning and disaggregation.[27] A viable alternative to the geographic area licensing approach would be to issue an unlimited number of non-exclusive nationwide licenses, with licensees authorized to deploy point-to-point "pencil beam" links on a first-come-first-served basis. Thus, there will be no need for partitioning and disaggregation if we adopt a non-exclusive link-by-link registration approach. We seek comment on all of these proposals.

Also, as an alternative, and in the interest of regulatory certainty, if we adopt a geographic area licensing structure, we propose to adopt a rule specifically permitting spectrum aggregation. The Commission has also concluded that permitting aggregation of channels might benefit the public through efficiencies and flexibility in the types of services this would allow, and might provide for lower costs or greater ability to compete with established service providers with large transmission capacity.[28] We also propose that 37/42 GHz licensees be allowed to aggregate their spectrum in order to provide greater flexibility of service. In other services, the Commission has adopted a rule expressly permitting aggregation.

The *Third NPRM* proposes competitive bidding procedures if we license bands by EAs when awarding 37/42 GHz licensees set out in Part 1, Subpart Q of our rules. Small businesses that choose to participate in the competitive bidding for these services and utilize a bidding credit are required to demonstrate that they meet the criteria set out to qualify as small businesses,[29] as required under Part 1,

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See ¶¶ 57-68, *infra*. We reserve discretion, in the event that we propose a channel plan for the 37/42 GHz bands, to require disaggregation of that spectrum by channel pairs.

[25] *See* 47 U.S.C. § 309(j)(3)(B).

[26] *Report and Order and Second NPRM*, 12 FCC Rcd at 18,635-36 ¶¶ 71-73; *see also Memorandum Opinion and Order*, 14 FCC Rcd at 12,460-61 ¶¶ 61-63.

[27] *70/80/90 GHz Report and Order* at ¶ 87.

[28] *Id.* at 18,627 ¶¶ 55.

[29] *See* 47 C.F.R. § 1.2101 *et. seq.* We note that in the *First NPRM and Order*, the Commission sought comment on competitive bidding design and procedures for the 37 GHz band. However, since release of the *36-51 GHz First NPRM and Order* in 1995, the Commission has made substantial amendments and modifications to its Part 1 general competitive bidding rules for all auctionable services. *See Part 1 Third Report and Order*, 13 FCC Rcd 374; *Part 1,* (continued....)

Subpart Q of the Commission's rules, 47 C.F.R. Part 1, Subpart Q. We believe that the small business size standards and corresponding bidding credits proposed would provide a variety of businesses with opportunities to participate in the auction of licenses for the 37/42 GHz band and afford licensees substantial flexibility for the provision of services with varying capital costs.[30] We further propose to provide small businesses with a bidding credit of fifteen percent and very small businesses with a bidding credit of twenty-five percent. The bidding credits we propose here are those set out in the standardized schedule in Part 1 of our rules.[31] We also seek comment on the use of these standards and associated bidding credits for applicants to be licensed in the 37/42 GHz band, with particular focus on the appropriate definitions of small and very small businesses as they relate to the size of the geographic area to be covered and the spectrum allocated to each license. In developing these proposals, however, we acknowledge the difficulty in accurately predicting the market forces that will exist at the time we license these frequencies. Thus, our forecasts of types of services that licensees will offer over these bands may require adjustment depending upon ongoing technological developments and changes in market conditions. Accordingly, to the extent commenters support a different bidding credit regime, or believe

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Recon. Order and Part 1 Fifth Report and Order, 15 FCC Rcd 15293; *Second Order on Reconsideration of the Third Report and Order and Order on Reconsideration of the Fifth Report and Order*, 18 FCC Rcd 10180. In addition, many of the auction procedures upon which the *First NPRM and Order* sought comment are matters on which the Wireless Telecommunications Bureau regularly seeks comment and makes a determination under its delegated authority. Amendment of Part 1 of the Commission's Rules – Competitive Bidding Procedures, *Order, Memorandum Opinion and Order and Notice of Proposed Rulemaking*, 12 FCC Rcd 5686, 5697-98, ¶ 16 (1997) (citing 47 C.F.R. § 0.131).

[30] *Report and Order and Second NPRM*, 12 FCC Rcd at 18,661-64 ¶¶ 149-54.

[31] In the *Part 1 Third Report and Order*, the Commission adopted a standard schedule of bidding credits, the levels of which were developed based on the Commission's auction experience. *Part 1 Third Report and* Order, 13 FCC Rcd at 403-04 ¶ 47; *see also* 47 C.F.R. § 1.2110(f)(2). We note, however, that the standardized bidding credits are not the same as those adopted for the 39 GHz band. *Report and Order and Second NPRM*, 12 FCC Rcd at 18,661-64 ¶¶ 149-54.

that there are any distinctive characteristics to the 37/42 GHz band that suggest we should not employ bidding credits in this instance, commenters should support their proposals with relevant information. For example, commenters should provide information on the types of system architecture that licensees are likely to deploy in these bands, the availability of equipment, market conditions, and other factors that may affect the capital requirements or the types of services that licensees may provide.[32]

F. Federal Rules That Overlap, Duplicate, or Conflict with These Proposed Rules

None.

[32] *See* 47 U.S.C. § 1.2110(c)(1) (provides factors used to determine the appropriate threshold for the use of bidding credits).

APPENDIX C

Existing Government Operations in 37.0-38.6 GHz Band

Frequency band	Location (Federal Agency)		Coordinates
37-38 GHz	Goldstone, CA (NASA)		35° 09' 00" N, 116° 50' 06 " W
	Green Bank, WV (NSF)[1]		37° 30' 00" N, 78° 30' 00" W
		to	39° 15" 00" N, 80° 30' 00" W

[1] These are the northwest and southeast corners of the National Radio Quiet Zone, established in IRAC Document 3867/2 dated March 26, 1958, and in FCC Docket No. 11745 dated November 1958.